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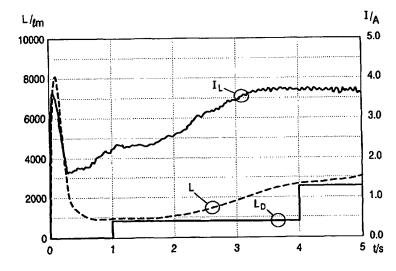
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(54) Title: DEVICE AND METHOD FOR CONTROLLING A GAS DISCHARGE LAMP, AND LIGHTING SYSTEM WITH GAS DISCHARGE LAMP AND CONTROL DEVICE



(57) Abstract: A device and a method for the control of a gas discharge lamp are disclosed. In order to detract as little as possible from lamp life in spite of the luminous flux requirements to be fulfilled during the run-up of the lamp, the lamp is operated with an alternating current in a run-up phase which comprises at least the interval from 1 s to 3 s after lamp ignition, the amplitude of said current rising during the run-up phase. After the rise in the run-up phase, the current may first rise further or remain constant in a transitional phase which preferably follows the former phase, and is subsequently reduced until the lamp enters the stationary operational phase. The time gradient of the current is preferably chosen such here that minimum values for the luminous flux of the lamp are achieved at given moments. Particular advantages are obtained, for example, in the case of Hg-free lamps which are operated with high currents, especially during the run-up.

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 5 742 132 A (HUBER ANDREAS ET AL) 21 April 1998 (1998-04-21)	1,3-10
A	figures 3,4	2,11
X	US 5 821 696 A (ARLT JOACHIM ET AL) 13 October 1998 (1998-10-13)	1,3-10
A	figure 1	2,11
X	US 6 046 551 A (KITA MASAHIDE) 4 April 2000 (2000-04-04)	1,3-10
A	column 7, line 35-38; figure 1	2,11
X	EP 0 508 526 A (PHILIPS NV) 14 October 1992 (1992-10-14)	1,3-10
A	column 8, line 23 - line 36; figure 2	2,11
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		PCT/IB 03/0013/	
C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
A	US 6 340 869 B1 (PATRA PATENT TREUHAND ;WERNER FRANK (DE)) 22 January 2002 (2002-01-22) figure 1C	1-11	
A	EP 0 785 702 A (POKORNY GERD) 14 November 2001 (2001-11-14) column 2, line 30 - line 37	1-11	
A	US 6 160 362 A (SHONE MICHAEL ET AL) 12 December 2000 (2000-12-12) figure 2C	1-11	
		·	



Information on patent family members

PCT/IB 03/00137

Patent document cited in search report	Publication date		tent family ember(s)	Publication date
US 5742132 A	21-04-1998	DE 1 CA EP JP	9515511 A1 2175143 A1 0740492 A2 8306493 A	31-10-1996 28-10-1996 30-10-1996 22-11-1996
US 5821696 A	13-10-1998	DE DE 5 EP JP	4442898 A1 59510062 D1 0715487 A2 8227795 A	05-06-1996 28-03-2002 05-06-1996 03-09-1996
US 6046551 A	04-04-2000	JP 200 FR	00113995 A 2775414 A1	21-04-2000 27-08-1999
EP 0508526 A	14-10-1992		59213986 D1 59213986 T2 0508526 A1 2093176 T3 5109493 A 242908 B1 5523656 A	31-10-1996 03-04-1997 14-10-1992 16-12-1996 30-04-1993 01-02-2000 04-06-1996
US 6340869 B	1 22-01-2002	EP	1266606 T 9908492 A1 59805987 D1 1002450 A1 01513590 T 443076 B	13-09-2000 18-02-1999 21-11-2002 24-05-2000 04-09-2001 23-06-2001
EP 0785702 A	23-07-1997		5684367 A 2195032 A1 69616971 D1 69616971 T2 0785702 A2 9199284 A	04-11-1997 17-07-1997 20-12-2001 04-04-2002 23-07-1997 31-07-1997
US 6160362 A	12-12-2000	CN EP WO JP 20	1256852 T 0981932 A1 9935890 A1 01515650 T	14-06-2000 01-03-2000 15-07-1999 18-09-2001